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EXAMINER	
NGUYEN, TOAN D	
ART UNIT	**PAPER NUMBER**
2665	20

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/835,649	ROBERT T. BAUM ET AL.	
	Examiner	Art Unit	
	Toan D Nguyen	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 October 2003* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3 and 6-57* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *18-45 and 48-57* is/are allowed.

6)☒ Claim(s) *1-3,6-8,12-17,46 and 47* is/are rejected.

7)☒ Claim(s) *9-11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-3, 6-7, 12-16 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Easty et al. (U.S. Patent 6,189,008 B1) in view of LaJoie et al. (U.S. Patent 5,850,218).

For claims 1, 12 and 15, Easty et al. disclose dynamic digital asset management, comprising the steps:

determining unused bandwidth on a common link of an access data network carrying subscriber traffic and over which the central content server located in a hub site and the at least one local content server located in a central office communicate (figure 2, col. 6 lines 5-16); and

transmitting content data stored on the central content server to the at least one local content server substantially on the determined unused bandwidth (col. 6 lines 17-21).

However, Easty et al. do not disclose determining unused bandwidth. In an analogous art, LaJoie et al. disclose determining unused bandwidth (col. 11 line 67 to col. 12 line 5). One skilled in the art would have recognized determining unused bandwidth to use the teachings of LaJoie et al. in the system of Easty et al. therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the determining unused bandwidth as taught by LaJoie et al. in Easty et al.'s system with the motivation being to connect media servers 16 to digital switch or multiplexer or interactive cable gateway directly because it requires a great deal of bandwidth (col. 11 line 67 to col. 12 line 1).

For claim 2, Easty et al. disclose wherein said at least one local content server comprises a server located in a vertical services domain proximate to at least one end user terminal (figure 1, col. 3 lines 30-42).

For claim 3, Easty et al. disclose the vertical services domain is located in a central office that provided Digital Subscriber Line (DSL) service to the at least one end user terminal (col. 3 line 67 to col. 4 line 1).

For claims 6 and 7, Easty et al. disclose storing the content data transmitted to the at least one local content server on the at least one local content server (figure 1, col. 4 lines 8-14); and

transmitting the content data stored on the at least one local content server to at least one end user terminal proximate to the at least one local content server (col. 4 lines 8-14 and col. 5 lines 25-45).

For claims 13-14 and 16, Easty et al. disclose the steps of determining unused bandwidth and transmitting content data utilize priority and queuing in at least one node of the access data network, to implement a minimum bandwidth and provide additional bandwidth as available on

the common link, for the transmitting of the content data over the common link (col. 4 lines 22-36 and col. 5 lines 5-16).

For claim 46, Easty et al. disclose dynamic digital asset management, comprising the steps:

determining unused bandwidth on a common link of an access data network carrying subscriber traffic and over which central content server and the at least one local content server communicate (figure 2, col. 6 lines 5-16);

transmitting content data stored on the central content server to the at least one local content server substantially on the determined unused bandwidth (figure 1, col. 5 lines 25-45);

storing the content data transmitted to the at least one local content server on the at least one local content server (col. 4 lines 8-14); and

transmitting the content data stored on the at least one local content server to at least one end user terminal proximate to the at least one local content server, wherein the step of transmitting the content data stored on the at least one second server to the at least one end user terminal comprises the steps of: transmitting the content data stored on the at least one second server to a data switch proximate to the at least one second server, integrating the content data transmitted from the at least one second server with the other data destined to the at least one end user terminal received at the data switch via the common link, and distributing the integrated data from the data switch to a link to equipment of the at least one end user terminal via a multiplexer (figure 1, col. 5 lines 25-45).

However, Easty et al. do not disclose determining unused bandwidth. In an analogous art, LaJoie et al. disclose determining unused bandwidth (col. 11 line 67 to col. 12 line 5).

One skilled in the art would have recognized determining unused bandwidth to use the teachings of LaJoie et al. in the system of Easty et al. therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, to use the determining unused bandwidth as taught by LaJoie et al. in Easty et al.'s system with the motivation being to connect media servers 16 to digital switch or multiplexer or interactive cable gateway directly because it requires a great deal of bandwidth (col. 11 line 67 to col. 12 line 1).

4. Claims 8, 17 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Easty et al. (U.S. Patent 6,189,008 B1) in view of LaJoie et al. (U.S. Patent 5,850,218) further in view of Araujo et al. (U.S. Patent 6,097,720).

For claims 8, 17 and 47, Easty et al. in view of d LaJoie et al. do not disclose wherein the multiplexer is a Digital Subscriber Line Access Multiplexer (DSLAM). In an analogous art, Araujo et al. disclose wherein the multiplexer is a Digital Subscriber Line Access Multiplexer (DSLAM) (figure 9, col. 9 lines 59-63); wherein the logical communication circuit comprises an asynchronous transfer mode (ATM permanent virtual circuit (PVC) (col. 8 line 57 as set forth in claim 17).

One skilled in the art would have recognized a Digital Subscriber Line Access Multiplexer to use the teachings of Araujo et al. in the system of Easty et al. Therefore, it would have been obvious to one of ordinary skill in the art at the time invention, to use the Digital Subscriber Line Access Multiplexer as taught by Araujo et al. in Easty et al.'s with the motivation being to establish the point-to-point session (col. 9 lines 61-63).

Allowable Subject Matter

5. Claims 9-10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons For Allowance

6. Claim 18-45 and 48-57 are allowed.

7. The following is an examiner's statement of reasons for allowance:

Regarding to claim 18, the prior art fails to teach a combination of the steps of:

at least one machine readable medium; and

programming code, carried by the at least one machine readable medium, for execution by at least one computer, wherein the programming code comprises:

a congestion mechanism for determining unused bandwidth on a portion of a common link of an access data network, carrying subscriber traffic and over which the first server and the at least one second server communicate; and

a first transmitting mechanism for causing transmission of content data stored on the first server to the at least one second server substantially on the determined unused bandwidth, in the specific combination as recite in claim 18.

Regarding to claim 25, the prior art fails to teach a combination of the steps of:

a communication access node coupled to a first network domain;

a central content server located at a hub site for storing content data coupled to the communication access node;

a plurality of digital subscriber line transceivers coupled to network ends of subscriber lines, for data communication with transceivers coupled to customer premises end of respective subscriber lines;

an access switch coupled for data communication with the digital subscriber line transceivers, for receiving data from customer premises equipment via respective ones of the digital subscriber line transceivers and for supplying data intended for transmission to predetermined customer premises equipment to the respective ones of the digital subscriber line transceivers;

a high-speed data link between the access switch and the communication access node;

a layer-2 protocol logical communication circuit provisioned through the access switch and the high-speed data link for each subscriber line, wherein each logical communication circuit is provisioned to extend from a respective customer premises to the communication access node; a second network domain coupled locally to the access switch; a local content server located in a central office for storing content data coupled to the second network domain; and

a logical communication circuit for content distribution between the central content server and the local content server provisioned through the access switch and the high-speed data link, the provisioning of the logical communication circuit for content distribution enabling communication of content data between the communication access node and the access switch over bandwidth unused by traffic on the layer-2 protocol logical communication circuits, in the specific combination as recite in claim 25.

Regarding to claim 39, the prior art fails to teach a combination of the steps of:

a hub data switch connected to a coupled to the wide area internetwork;

a central content server located at a hub site coupled for data communication via the hub data switch;

a plurality of digital subscriber line transceivers coupled to network ends of subscriber lines, for data communication with transceivers coupled to customer premises ends of respective subscriber lines;

a multiplexer coupled to the digital subscriber line transceivers, for receiving data from customer premises equipment via respective ones of the digital subscriber line transceivers and for supplying data intended for transmission to predetermined customer premises equipment to the respective ones of the digital subscriber line transceivers;

an access switch coupled to the multiplexer;

a high-speed data link between the access switch and the hub data switch;

a vertical services network coupled locally to the access switch;

a local content server located at a central office coupled for data communications via the vertical service network; and

a logical circuit between the central content server and the local content server for transport of content data between the servers, wherein provisioning associated with the logical circuit in the hub data switch or in the access switch allocates otherwise available bandwidth to the logical circuit within the high-speed data link between the access switch and the hub data switch when not otherwise used by the customer traffic, in the specific combination as recite in claim 39.

Regarding to claim 48, the prior art fails to teach a combination of the steps of:

determining unused bandwidth on a common link of an access data network carrying subscriber traffic and over which central content server and the at least one local content server communicate;

transmitting content data stored on the central content server to the at least one local content server substantially on the determined unused bandwidth;

storing the content data transmitted to the at least one local content server on the at least one local content server;

transmitting the content data stored on the at least one local content server to at least one end user terminal proximate to the at least one local content server, wherein the step of transmitting the content data stored on the at least one local content server to the at least one end user terminal proximate to the at least one local content server comprises the steps of:

provisioning a logical communication circuit extending from the at least one end user terminal through the network to a communication access node coupled to a first network domain, at least a portion of the logical communication circuit extending through the common link, wherein the provisioning comprises defining the logical communication circuit in terms of a layer-2 protocol defining switched connectivity through the network;

at the data switch, examining communicated information in transmissions from the customer premises, for a protocol encapsulated within said layer-2 protocol, to distinguish transmission types;

forwarding each detected transmission of a first transmission type from the data switch to the communication access node over the logical communication circuit defined in terms of the layer-2 protocol; and forwarding each detected transmission of a second type, different from the

first transmission type, to a second network domain logically separate from the first network domain, wherein the at least one local content server is coupled to the second network domain to receive at least one transmission of a second type for control of the step of transmitting the content data stored on the at least one local content server to at least one end user terminal proximate to the at least one local content server, and

receiving first downstream transmissions intended for the at least one end user terminal at the data switch, over the logical communication circuit from the first network domain;

receiving second downstream transmissions intended for the at least one end user terminal from the second network domain at the data switch, content data from the at least one local content server; and

inserting the second downstream transmissions into the logical communication circuit, to combine the first and second downstream transmissions for communication over the logical communication circuit from the data switch to the at least one end user terminal, in the specific combination as recite in claim 48.

Regarding to claim 50, the prior art fails to teach a combination of the steps of:

a communication access node coupled to a first network domain;

a central content server for storing content data coupled to the communication access node;

a plurality of digital subscriber line transceivers coupled to network ends of subscriber lines, for data communication with transceivers coupled to customer premises end of respective subscriber lines;

an access switch coupled for data communication with the digital subscriber line transceivers, for receiving data from customer premises equipment via respective ones of the digital subscriber line transceivers and for supplying data intended for transmission to predetermined customer premises equipment to the respective ones of the digital subscriber line transceivers;

a high-speed data link between the access switch and the communication access node; a layer-2 protocol logical communication circuit provisioned through the access switch and the high-speed data link for each subscriber line, wherein each logical communication circuit is provisioned to extend from a respective customer premises to the communication access node;

a second network domain coupled locally to the access switch; a local content server for storing content data coupled to the second network domain;

a logical communication circuit for content distribution between the central content server and the local content server provisioned through the access switch and the high-speed data link, the provisioning of the logical communication circuit for content distribution enabling communication of content data between the communication access node and the access switch over bandwidth unused by traffic on the layer-2 protocol logical communication circuits;

a controller associated with the access switch, for examining communicated in transmissions from respective customer premises, for a protocol encapsulated within said layer-2 protocol, to distinguish transmission types, and in response to cause the switch to:

forward each detected transmission of a first transmission type to the communication access node over a respective one of the logical communication circuits defined in terms of the layer-2 protocol;

forward each detected transmission of a second type, different from the first transmission type, to the second network domain;

receive first downstream transmissions intended for one customer premises from the communication access node, over a respective logical communication circuit;

receive second downstream transmissions intended for the one customer premises from the second network domain, wherein content stored on the local content server is transmitted to the one customer premises over at least some of the second downstream transmissions; and

insert the second downstream transmissions into the respective logical communication circuit, to combine the first and second downstream transmissions for transport via one of the digital subscriber line transceivers which serves the one customer premises, in the specific combination as recite in claim 50.

Regarding to claim 53, the prior art fails to teach a combination of the steps of:

a communication access node coupled to a first network domain;

a central content server for storing content data coupled to the communication access node;

a plurality of digital subscriber line transceivers coupled to network ends of subscriber lines, for data communication with transceivers coupled to customer premises end of respective subscriber lines;

an access switch coupled for data communication with the digital subscriber line transceivers, for receiving data from customer premises equipment via respective ones of the digital subscriber line transceivers and for supplying data intended for transmission to predetermined customer premises equipment to the respective ones of

the digital subscriber line transceivers;

a high-speed data link between the access switch and the communication access node;

a layer-2 protocol logical communication circuit provisioned through the access switch and the high-speed data link for each subscriber line, wherein each logical communication circuit is provisioned to extend from a respective customer premises to the communication access node;

a second network domain coupled locally to the access switch;

a local content server for storing content data coupled to the second network domain; and

a logical communication circuit for content distribution between the central content server and the local content server provisioned through the access switch and the high-speed data link, the provisioning of the logical communication circuit for content distribution enabling communication of content data between the communication access node and the access switch over bandwidth unused by traffic on the layer-2 protocol logical communication circuits, wherein the first transmission type comprises a type of the local area network protocol adapted for internetwork service provider applications, in the specific combination as recite in claim 53.

Regarding to claim 55, the prior art fails to teach a combination of the steps of:

a communication access node coupled to a first network domain;

a central content server for storing content data coupled to the communication access node;

a plurality of digital subscriber line transceivers coupled to network ends of subscriber lines, for data communication with transceivers coupled to customer premises end of respective subscriber lines;

an access switch coupled for data communication with the digital subscriber line transceivers, for receiving data from customer premises equipment via respective ones of the digital subscriber line transceivers and for supplying data intended for transmission to predetermined customer premises equipment to the respective ones of the digital subscriber line transceivers;

a high-speed data link between the access switch and the communication access node;
a layer-2 protocol logical communication circuit provisioned through the access switch and the high-speed data link for each subscriber line, wherein each logical communication circuit is provisioned to extend from a respective customer premises to the communication access node;

a second network domain coupled locally to the access switch;

a local content server for storing content data coupled to the second network domain; and
a logical communication circuit for content distribution between the central content server and the local content server provisioned through the access switch and the high-speed data link, the provisioning of the logical communication circuit for content distribution enabling communication of content data between the communication access node and the access switch over bandwidth unused by traffic on the layer-2 protocol logical communication circuits, wherein each provisioning of the logical communication circuit for content distribution assigns unspecified bit rate service thereto with an associated minimum service guarantee, in the specific combination as recite in claim 55.

Regarding to claim 56, the prior art fails to teach a combination of the steps of:

a hub data switch connected to a coupling to the wide area internetwork;

a central content server coupled for data communication via the hub data switch;

a plurality of digital subscriber line transceivers coupled to network ends of subscriber lines, for data communication with transceivers coupled to customer premises ends of respective subscriber lines;

a multiplexer coupled to the digital subscriber line transceivers, for receiving data from customer premises equipment via respective ones of the digital subscriber line transceivers and for supplying data intended for transmission to predetermined customer premises equipment to the respective ones of the digital subscriber line transceivers; an access switch coupled to the multiplexer;

a high-speed data link between the access switch and the hub data switch;

a vertical services network coupled locally to the access switch; a local content server coupled for data communications via the vertical service network; and

a logical circuit between the central content server and the local content server for transport of content data between the servers, wherein provisioning associated with the logical circuit in the hub data switch or in the access switch allocates otherwise available bandwidth to the logical circuit within the high-speed data link between the access switch and the hub data switch when not otherwise used by customer traffic, wherein the logical circuit comprises at least one Asynchronous Transfer Mode (ATM) permanent virtual circuit (PVC), wherein the at least one ATM PVC is provisioned to provide a guaranteed minimum bandwidth in combination with

unspecified bit rate service for the logical circuit within the high-speed data link, in the specific combination as recite in claim 56.

Regarding to claim 57, the prior art fails to teach a combination of the steps of:

a hub data switch connected to a coupling to the wide area internetwork;

a central content server coupled for data communication via the hub data switch;

a plurality of digital subscriber line transceivers coupled to network ends of subscriber lines, for data communication with transceivers coupled to customer premises ends of respective subscriber lines;

a multiplexer coupled to the digital subscriber line transceivers, for receiving data from customer premises equipment via respective ones of the digital subscriber
line transceivers and for supplying data intended for transmission to predetermined customer premises equipment to the respective ones of the digital subscriber line transceivers;

an access switch coupled to the multiplexer;

a high-speed data link between the access switch and the hub data switch;

a vertical services network coupled locally to the access switch;

a local content server coupled for data communications via the vertical service network;

a logical circuit between the central content server and the local content server for transport of content data between the servers, wherein provisioning associated with the logical circuit in the hub data switch or in the access switch allocates otherwise available bandwidth to the logical circuit within the high-speed data link between the access switch and the hub data switch when not otherwise used by customer traffic;

a respective subscriber logical communication circuit provisioned in terms of a layer-2 routing protocol through the access switch and the high-speed data link, for each subscriber line to the subscriber to the hub data switch;

means associated with the access switch for examining communicated information in transmissions on the subscriber logical communication from each respective customer premises, for protocol layers higher than the layer-2 routing protocol, to distinguish transmission types;

wherein:

the access switch routes each detected transmission of a first transmission type, received from a customer premises via the respective subscriber logical communication circuit on the respective line, over the respective subscriber logical communication circuit on the high-speed data link to the hub data switch, and

the access switch extracts each detected transmission of a type other than the first transmission type from the respective logical communication circuit for routing to the vertical services network, in the specific combination as recite in claim 57.

Response To Arguments

8. Applicant's arguments filed on October 09, 2003 have been fully considered, but are moot in view of new ground(s) of rejection.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan D Nguyen whose telephone number is 703-305-0140. The examiner can normally be reached on Monday- Friday (7:00AM-4:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Huy Vu can be reached on 703-308-6602. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-9600.

Toan D. Nguyen

Toan D. Nguyen